



PWC Gen2 iBR troubleshooting procedure - 133414

Summary:

Gen2 iBR Overview, troubleshooting and tech tips

Type:

General

TST Detail:

Problem

Many iBR's are replaced due to incorrect diagnostic. After further analysis, external problems are found to be the cause of the iBR system fault.

Solution

This document will provide you step by step troubleshooting to avoid unnecessary iBR replacement. Use this document in conjunction with [PWC Gen2 iBR Diagnostic Tips - Electrical Explained - 133416](#)

Procedure

Verify customer's complaint while performing an **IBR SYSTEM FUNCTIONAL TEST** on dry land.
Refer to service manual for complete procedure. [Shop manual directory - 125002](#)

IBR SYSTEM FUNCTIONAL TEST :

a. Start engine on the hose and let idle.

NOTE: If iBR gate was not in the neutral position, it will move to the neutral position on engine start up.

b. Depress the throttle lever slightly and visually confirm the iBR gate moves to the forward position (up to the VTS trim position), then release throttle. The iBR gate must remain in the forward position.

c. Depress the iBR lever fully and confirm the iBR gate moves to the full down position.

d. Release the iBR lever completely and confirm the iBR gate moves to the neutral position.

e. If nothing abnormal is found, problem may be intermittent. Question customer before going further.

To troubleshoot the iBR use these steps in conjunction with [PWC Gen2 iBR Diagnostic Tips - Electrical Explained - 133416](#)

START; Perform functional test to determine if you have an electrical or mechanical failure.

Pass – iBR gate can move up and down GO TO 2

Fail – iBR does not move GO TO 1

1. Check for gate obstruction. Ensure the iBR gate movement is not obstructed in any way. Ensure the iBR gate mechanism is in good condition and does not show signs of excessive wear, impact or friction that prevents it from moving or causing it to move slowly.

Pass – No obstructions noted GO TO 2

Fail - If obstruction is found, repair as needed, clear fault/s and recheck.

2. Verify Battery condition & connections. Battery should have a minimum of 12.6V

Pass, GO TO 3

Fail, Recharge or Replace battery, clear faults and recheck,

3. Check system fuses, and terminal condition of fuse box, including starter solenoid junction connections.

Pass GO TO 4

Fail, repair as needed, clear faults and recheck.

4 Confirm that you have are using the proper version of B.U.D.S. and NO other B.U.D.S. are open at the same time.

Yes, GO TO 5

No, Refer to BUDs guide for proper version and connection. Connect & re-scan (Step 4)

5. Connect the watercraft to B.U.D.S. to check if the iBR actuator is visible in B.U.D.S.

Yes, GO TO 10

No, GO TO 6

6. Make sure connections at iBR connector are good, tight and corrosion free.

Yes, GO TO 7

No, Repair connections, clear faults and recheck

7. Check power supply & grounds to iBR Module. Use appropriate wiring diagram.

Pass, GO TO 8

Fail, repair as needed clear faults and recheck

8. Verify CAN HI/LO connections are good and proper resistance is read through CAN system. Refer to wiring diagram.

Pass GO TO 9

Fail repair as needed clear faults and recheck

9. Test connectivity using another iBR module (new or used).

Note: It is extremely rare, for two different modules to not communicate with BUDS. Communication failure can also be cause by another module that is faulty. No other symptoms may be noted. Unplugging other modules one at time to confirm if communication is re-established.

Pass – Connectivity restored with test module, replace iBR if original module still does not communicate after rechecking

Fail - If no communication with test module, re-check all verifications made, something has been missed

10. Verify if any updates are needed for the iBR or other modules.

Yes, Update ALL Modules as required. Recheck iBR and re-scan (step 5)

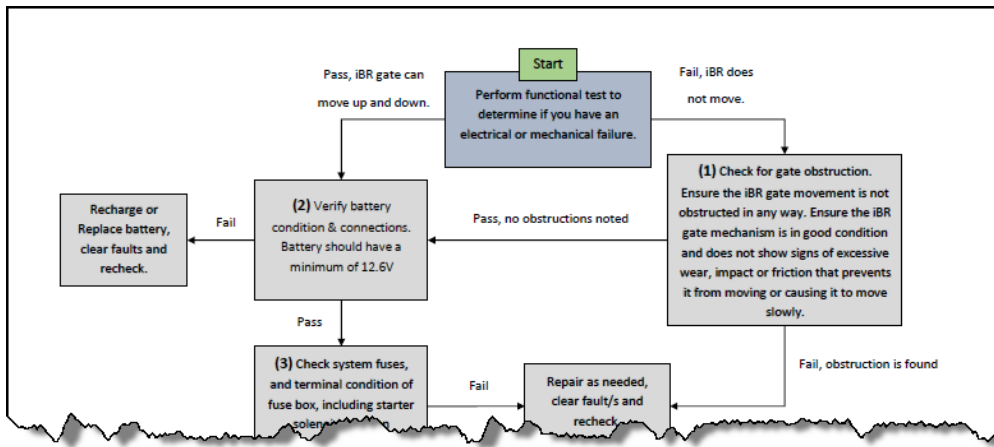
No, GO TO 11

11. Perform all service actions suggested actions in BUDS related to the active or occurred faults.

NOTE If faults are iBR movement related, remove the screw retaining the gate to the connecting arm. Move the gate up and down by hand to check for freedom of movement and if the iBR can move when activated.

Repair as needed, clear faults and recheck

Diagnostic Flowchart



Refer to the Printable [Diagnostic Flow Chart PDF](#)

Attachment: iBR Test Procedure Flowchart.pdf

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